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LEADING ARTICLES

GASES IN THEIR RELATION TO THE BODY.

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[FOR THE MEDICAL FORTNIGHTLY.]

I. NORMAL RELATIONS OF THE ATMOSPHERE TO LIVING ORGANISMS.

All ordinary terrestrial organisms should be thought of as in anology to deep marine organisms, that is, as supported by the solid bottom of an ocean of fluid which permeates their tissues, subjects them to an appreciable pressure—about 15 pounds per square inch—and hampers their movements. While the gross interstices of the body are usually filled with watery solutions rather than air, these solutions are, themselves, charged with air, or some of its constituent gases, which can be removed in a vacuum, and each ultimate solid constituent particle of the body is subjected to approximately the same pressure which the weight of the atmosphere exerts at its bottom. It is an interesting speculative question whether any form of life can exist except under such fluid pressure, aside from the oxidative action of the atmosphere, which, by absorption into the subjacent water, is extended to a lesser degree, even to marine forms of life. In speaking of the atmosphere as hampering the movements of animals, we must remember that, even allowing for custom, the resistance is plainly appreciable in rapid movement, either passive or active, and whether the movement is on the part of the animal body or of the atmosphere itself as in a high wind.

Aside from the question as to necessity of a fluid support of the body as a whole and of its components, the most obvious and necessary function of the atmosphere is the provision of oxygen to provide for chemic production of energy, including that manifested as heat, without which life would be impossible. Here again, certain speculative questions presents themselves: Could some other chemic change than oxidation be substituted, to provide the energy necessary for life, and could this energy be provided by an entirely different force, for instance electricity? In answer to the second, which is the broader question, it may be said that there is no analogy known, of life supported by other than chemic energy. Whether it would be supernatural or merely preternatural, to suppose a living body periodically charged with electricity or with some other vibratory force, need not be debated. Certain animals possess electric organs but the electricity is ultimately generated by oxidative force. So far as our observation has proceded, with the possible exception of anacerobic bacteria, all forms of life, even deep marine life, of both kingdoms, depend upon oxidation and the vigor of action, motor, secretory or sensory, is pretty definitely dependent upon the anatomic and physiologic provisions for oxidation.

In considering whether any other chemic substance than oxygen could be utilized to provide the necessary energy for life, we are at once struck with the fact that this element, in general, combines more readily and with a greater number of other elements, than any other single element. We should also, be impressed with the converse proposition that, since this is the case, there must be some special reason why there still remains an apparently inexhaustible stock of free oxygen. While recognizing the freedom with which oxidation occurs, we must not be blind to the fact that this freedom is only relative and that the organism of the higher animals provides special means for carrying and combining

oxygen. Without these special means, there would be no efficient degree of oxidation of organic substances in the body. Quantitively, the human being at least, oxidizes more sugar than anything else, but it is extremely doubtful whether, other conditions of supply of oxygen, conveyance by the circulation to all parts of the body, the presence of an alkaline liquid holding an approximately uniform amount of sugar in solution, being the same, so much carbohydrate could be oxidized as under the actual existing conditions. Indeed, the presence of a glycolytic ferment has been pretty positively demonstrated and, in diabetes, the essential condition, seems to be a lack of the ferment.

This raises the question whether ferments are not also necessary for the oxidation of fats in the body, and also for such partial oxidation of nitrogenous substances as does take place, for the nitrogenous organic molecule is never completely reduced in the body. Again, is the conveyance of oxygen by the haemoglobin of the red cells uninfluenced by a ferment and are the successively lower functions of various forms of animal and vegetable life due to less and less developed ferment activities? Can there be life-supporting oxidation without ferments? These questions can not be answered as yet. It may be of interest to note in passing that certain marine organisms utilize copper, as the vertebrates do iron, to form a complex molecule capable of attracting oxygen and giving it off to oxidize food and tissue.

While all forms of life, so far as known, produce energy by oxidation, most of the more conspicuous forms of plant life, as well as some of the extremely low ones and some plant-like animals, have the power under actinic rays of sunlight, of combining carbon dioxid with water and forming carbohydrates, with liberation of oxygen. By definition, all carbohydrates contain m atoms of carbon and n atoms of oxygen, with $2n$ atoms of hydrogen. In other words, all the hydrogen and oxygen needed for the carbohydrate is furnished by water and whatever oxygen is present in carbon oxidid, or its equivalent amount from the water, is liberated.

Just what the composition of the atmosphere was when life began, cannot be stated. Doubtless it was comparatively poor in oxygen and rich in carbon oxidid. At any rate, animal life of a low nature seems to have been, at the beginning, more luxuriant than vegetable. Still, it must be borne in mind that there was probably a prehistoric period for palaeontology, in which simple and minute organisms existed which have left no trace of their existence in the form of fossils. Natural gas deposits in the corresponding rocks, may indicate an abundance of vegetable organisms, not in keeping with the ordinary teachings of palaeontology. For instance, right here in Buffalo, ignorant men bored for natural gas, in spite of the warnings of geologists that the rocks contained no such abundance of fossils as would enable any considerable amount of gas to be collected. But the gas was found in considerable quantities, more than enough to repay for the enterprise, and then the geologists explained that organic matter, instead of being deposited as fossiles, has been decomposed to form gas. This gas, being rich in carbon and hydrogen compounds and poor in nitrogen, strongly suggests an abundance of vegetable life.

Up to the time of the carboniferous age, animal life is mainly in evidence. At this time, there must have been an enormous accumulation of carbon dioxid in the atmosphere and, in response, there developed an enormous tropical plant growth, with many large but sluggish animals. During the carboniferous age, the carbon dioxid was gradually reduced, and a large part of the carbon deposited as coal, in the elemental, though by no means pure state. Since that time, the atmosphere has presumably remained in approximately its present condition, with a pretty even balancing of consumption of oxygen by fires, respiration and decay, on the one hand, and of carbohydrate formation with liberation of oxygen and fixing of carbon with water on the other.

In the make-up of the world, there was left over a large quantity of nitrogen, an element which is a gas at any temperature which the world has ever experienced or ever will experience until, in the gradual process of cooling, it reaches a temperature far below that at which any known form of life can exist. Nitrogen is at the opposite extreme from oxygen, being extremely difficult to force into combination with other elements. The atmosphere contains about 1 per cent of argon and possibly traces of one or two other gases of little or no affinity for other elements.

After the igneous age of the earth, if such existed in the older geologic sense, about the only possible means of combining nitrogen, would be by lightning, forming oxids, and ammonia, washed to the surface by rain and combined with each other and with water to form salts which, in turn, would be exchanged from ammonium to other metallic bases, to some extent.

There is no known natural method by which these salts could be built up into complex organic compounds, except by vegetable—and possibly, plant-like animal —cells. Hence, there is a purely chemic argument for the supernatural creation of life. Most nitrate beds represent accumulations of organic, living things, or even, in the restricted sense, accumulated excrement of animals, perhaps saurians or birds. The higher forms of animal life, while capable of effecting some changes in nitrogenous molecules, do this only in a destructive direction and depend for their proteid and related complex nitrogenous matter upon their food. Some indeed, can assimilate it in sufficient amount only from other animals or at least, the relatively rich store in seeds of plants. Other animals, the herbivorae, by virtue of their long and complex alimentary canals and thorough digestion, can appropriate it from leaves and stalks of plants. Only lowly, plant-like animals can directly build up inorganic compounds of nitrogen into complex organic molecules. Plants, however, do not depend altogether upon nitrogen only two steps from the air but thrive upon the nitrogenous and other components of animals, either in the excrement or the dead bodies of the latter.

These reciprocal relations of plants and animals, regarding the nitrogen, carbon dioxid and oxygen of the atmosphere are most interesting, but while the mutual dependence is plain we must not forget that they are in each particular, in the interest of the particular organism involved. It is extremely doubtful whether plant life could exist in its higher forms without animal life and certain that the higher forms of animal life would die out without plant life.

Air as a carrier of water, is of great value to living organisms. Some are capable of existing almost entirely upon the atmospheric water. Even higher animals may exist upon dew without other water supply. Quite a number of years ago, the writer, filled with pity for a flock of sheep confined in hot weather in a small, unwatered pasture, went to considerable trouble to provide them with a trough of water, but they did not touch it, on account of a residue of sour bran that it contained. Evidently they had not suffered especially from the deprivation of a copious supply of water.

Much has been written about the effects of dry air in living rooms in winter. Obviously, the dryness of air depends both upon the actual amount of water and the temperature. Cold air is capable of holding without condensation, a relatively small amount of water. When admitted to dwellings and raised in temperature, its saturation point is raised and it becomes relatively dry. The writer recollects being filled with alarm by a medical paper which dilated upon the possible effects of drying out the eyes, of producing respiratory catarrhs by inhaling the unduly dry air and by the effect upon the skin surface and, hence, upon the visceral circulation generally, of passing from the dry air of a house to outdoor air, with a moisture a hundred per cent greater. But this alarm was cut short by reflecting, (1) that there is abundant physiologic provision for moistening the eyes; (2) that the nasal passages normally moisten and warm the inspired air; (3) that the free passage of water through the skin and its removal by insensible perspiration is rather a good thing; (4) that, to protect ourselves from cold we wear heavy clothing in winter, which cannot very well be changed every time we enter a house and that it would be intolerable at the same temperature in summer and is doubtless rendered tolerable in winter by the relatively free evaporation of insensible perspiration; (5) that, as a personal observation, he had been much freer from colds after using radiators than while using grate and furnace; (6) that if a hundred per cent change in the amount of moisture to which the skin is exposed, is a serious matter, a sudden change of several thousand per cent in going from dry air into a bath ought to be fatal; and (7) that the reader of the paper was the inventor and owner of a patented appliance for introducing an adequate amount of water into furnace air.

Of all statements made in the name of science by superficial students, one of the most absurd is that, if the atmosphere consisted of pure oxygen instead of a 20 per cent dilution, the activity of physicial and mental function would be enhanced. Each animal has evolved a characteristic rate and amount of tidal respiration. In man, the breathing of 500 c.c. of air, at 20 times a minute, is the normal standard. It is absurd to suppose that if more oxygen were needed, the rate or quantity would not have been increased in the course of the hundred or two centuries of human existence. While our physical and mental functions certainly do depend upon the food that we take and the oxidation of it, as fuel or tissue, there is absolutely no evidence that our functions can be raised above par either by increasing the amount of food beyond the established

normal or by increasing the rapidity of its oxidation. An increase in the proportion of oxygen in the atmosphere would be unquestionably followed by a corresponding diminution of the frequency or bulk of respiration. In short, there would be no more physiologic difference than there would be in the consumption of water if the rain fall of an already well watered district were increased five times.

Indirectly, an atmosphere of pure oxygen would have a great influence upon human life if, indeed, it did not utterly destroy the race. Imagining the atmosphere to be suddenly changed to one of pure oxygen, fires would become so frequent as to compel an almost complete disuse of inflammable substances. Accidental and spontaneous combustion would render agriculture almost unproductive, forests would disappear, prairie fires would be frequent, animal life would correspondingly diminish and the probabilities are that in the course of a few generations, all life would be limited to the shores of water courses, lakes and seas and to certain hardy vegetation, burrowing and flying animals that could escape annihilation during conflagrations. The lack of ordinary vegetation would considerably alter rainfall and drainage and there might even be such a production of carbon dioxid and lack of carbohydrate formation by plants that the atmosphere would gradually change to a dilution of oxygen in carbon dioxid, so that man and all higher vertebrates would perish.

(To be continued)

An Important Paper.—The January 10th issue of the Fortnightly will contain an interesting paper from the pen of Dr. Joseph L. Boehm, of St. Louis, detailing his personal experience with Ehrlich's "606" in the treatment of syphilis in forty cases.

Do You Enjoy Your Work?—"The man who doesn't enjoy his job never does it well." Dr. Richard C. Cabot makes this remark in one of his recent books. It is worth remembering. The doctor especially should put his heart into his work. Of course there are many disagreeable things which are a part of his every day duties; but in the larger sense even these tasks may be made a pleasure. There is the joy of study, of investigation, of conscious well-doing, of mastery. Make this joy yours.—American Journal of Clinical Medicine.

SPINA BIFIDA—REPORT OF CASE.

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HOLLAND, TEXAS.

Spina bifida is a defect of embryonic development. During the process of embryonic growth the medullary grove develops into a deep sulcus across the posterior part of which the epiblastic layers of the groove, from either side, gradually arch and are united. Thus in the course of normal development the medullary groove becomes a closed canal with an epiblastic lining which is continuous with the epiblastic lining of the ventricles of the brain. Normally this canal is filled with the cord and its membranes, namely the pia mater, the arachnoid and the dura mater, together with the internal vertebral venous plexus and by a very loose and soft connective tissue and the cerebrospinal fluid.

It happens in about one case in a thousand that the epiblastic layers fail to unite over the dorsum of the groove leaving the medullary canal open posteriorly. This failure of development may be partial or complete. In the event of complete failure the canal remains merely an open trough. Such cases are of no surgical interest, as few of them reach the period of viability and none of them survive the full time of fetal growth. We are surgically interested in only those cases in which the failure of epiblastic union is limited to the space of one to three vertebrae. It is generally stated that the medullary groove begins to close in the upper dorsal region and advances both ways, the lower portion closing last (Johnson's Surgical Diagnosis, Vol. 3 and Keen's Surgery, Vol. 2). The same authorities also state that it is at the last point of union that failure most often occurs, thus accounting for the fact that most of the resulting defects are found about the sacro-lumbar region.

During normal embryonic development while the epiblastic medullary bridges are uniting and the epidermis is coming together across the median line, the mesoblastic tissue, from which the laminae of the vertebrae, the muscles and fibrous structures are formed gradually extends from each side and separates the epidermis from the posterior covering of the medullary canal. If there is failure of union of the epiblastic layers there will likewise be a failure of union of the mesoblastic layers. In certain cases in which the medullary canal closes and in which the skin unites fusion of the mesoblastic layers may fail in which cases the canal is closed only by

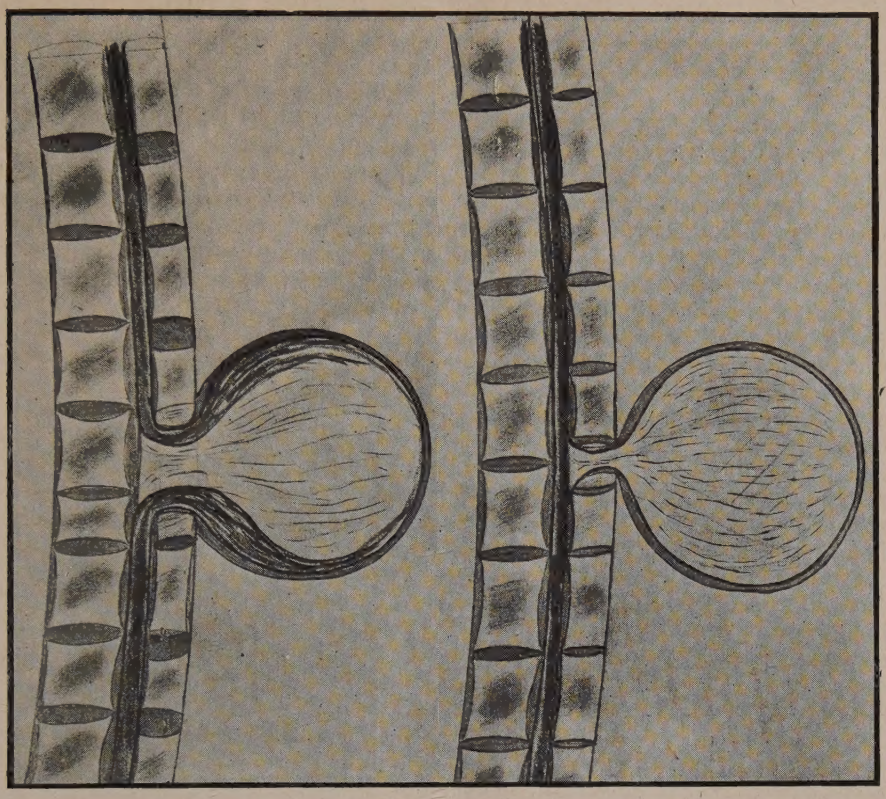

Fig. 2. Fig. 1

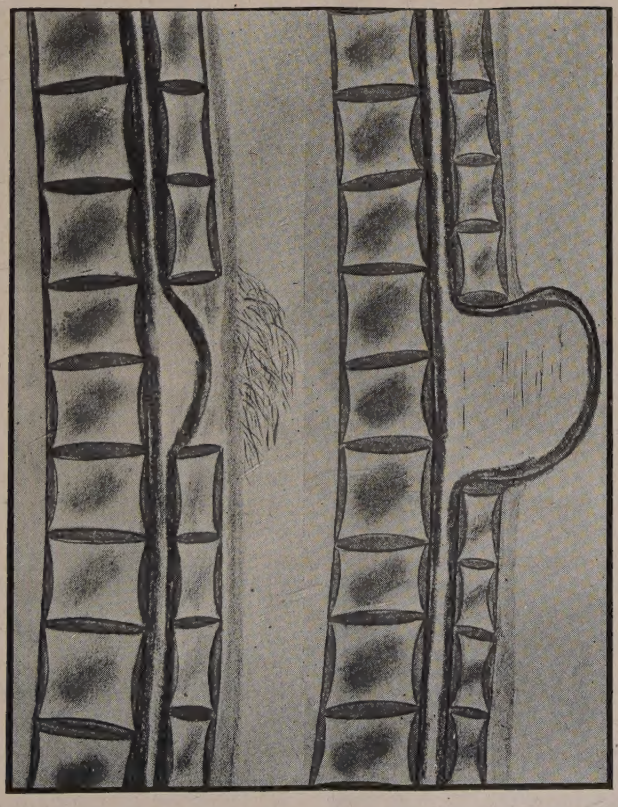

Fig. 4. Fig. 3.

the thin membranes formed by the epiblastic layer.

Three congenital defects are commonly grouped under the head of spina bifida, namely: (1) meningocele; (2) myelomeningocele, and (3) myelocystocele.

The spinal meningocele is a hernia-like protrusion of the arachnoid through the congenital cleft in the vertebrae or in rare instances through the normal arches of the vertebrae, and which becomes distended with fluid forming a globular tumor. The sac of meningocele is thin and nearly always distended under tension. It is not adherent firmly to the skin which forms its only covering. The tumors classed as meningoceles are usually narrow necked. (Fig. 1.)

The myelomeningoceles are usually broad based tumors the cleft in the vertebrae corresponding to two to four vertebrae. The sac has a correspondingly broad base and is composed of the arachnoid into which are herniated the spread out fibers of the spinal cord anterior to which is found the fluid. (Fig. 2.)

The myelocystoceles are really hernia-like tumors produced by the dilatation of the central canal by a serious fluid. The sac is not composed of either dura or arachnoid membrane, it being nothing more than the dilated central canal of the cord. The tumor has a very broad base and an ulcerated or necrosed summit. (Fig. 3.)

The diagnosis of the meningoceles from the myolemeningoceles and myelocystoceles can easily be made before opening the sac. The other varieties may be differentiated by opening the sac. There is a fourth form of spina bifida in which there is a defect in the laminae of the vertebrae but no hernia of the cord or membranes. This variety is termed spina bifida occulta. They are characterized by heavy growth of hair over the site of the defect. This class of lesions does not usually give rise to symptoms until near the age of puberty, provided the patient lives that long, i.e., about the age of most rapid growth there sometimes develops a paralysis due to the formation of tumors within the spinal canal or in the cleft of the vertebrae. In such cases relief may be had by removal of the tumor.

While the writer has had no experience with the X-ray as an aid in the differenital diagnosis of spina bifida, he believes that it would be of service in determining the extent of the cleft in the vertebrae.

A good strong light and dark room will aid us in determining the difference between the meningoceles and the myelomeningoceles and myelocystoceles, in the later two varieties the fibers of the cord may be seen spread out on the inner lining of the sac.

The prognosis in all forms of spina bifida is unfavorable. The inevitable end of all cases is death if not cured by surgery. The most favorable cases do not live to be over twenty years of age. The average meningocele proves fatal before the fifth year. The myelomeningocele and the myelocystocele usually terminate life before the second year.

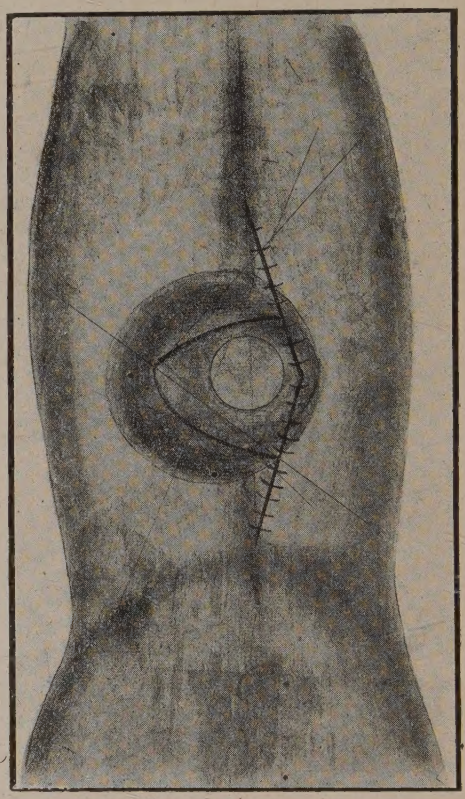

Fig. 8.

A high mortality has followed operative treatment, but the fact that a certain percentage of permanent cures may be had, and the further fact of certain death without operation should decide the surgeon to operate on a larger number of cases than are now so treated.

It is true that a certain percentage of cases of meningocele successfully operated on subsequently die of hydrocephalus or some intercurrent disease, however we believe that at least 50 per cent of cases can be cured by timely operation. Probably not over 20 per cent of myelomeningoceles are surgically cured and a still smaller number of the myelocystoceles.

The best time to operate is from the third to the twelfth month. Operations that are delayed beyond two years are not usually successful. A meningocele might be operated on during the first few days or weeks. The little patient should be prepared by cleaning out the intestinal tract and keeping same clean for two days after the operation. The stomach should be washed out just before the anesthetic. Doses of urotropin should be given for two days before the operation and continued for two days after. The anesthetic of choice is chloroform. I do not think that the operation can be done successfully with local anesthesia.

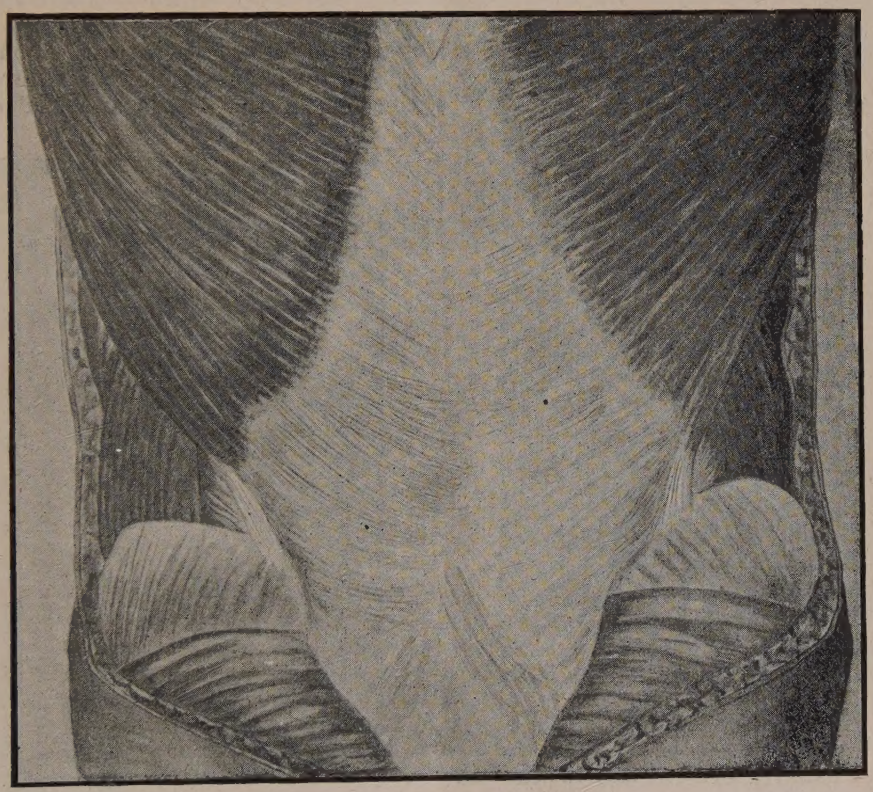

Fig. 6.

Operative Techic.—The skin incision is made by beginning at a point in the median line about two inches above the base of the tumor and making an half elliptical cut latterly, beside the base of the pedicle to a point in the median line two inches below the base of the tumor (Fig. 8). The next incision is made from a point in the first cut where it touches the base of the tumor over the dorsum of the tumor going beyond the median line as far as possible allowing liberally for flap to close wound, thence back to point in line of first cut just below pedicle of tumor. The skin included in these lines is dissected off being careful not to open the sac and dissected up on the opposite side and pushed back off the tumor sac. The sac is now opened, laterally on top, and the fluid evacuated. Before opening the sac the child should be placed with head down and body at an angle of 30 degrees and warm pack all over back. This position should be maintained until the sac is closed.

After opening the sac we will know at once with what we are dealing. If it is a meningocele we free the sac down to the pedicle and amputate it and close with double purse string suture of chromic catgut similar to the method used in closing appendices. To make double sure a catgut suture should be placed around the neck of the sac below the inversion. The sac is then dropped back into the sulcus produced by the deficient vertebrae. If it is a myelomeningocele the portion of the cord which is found spread out in the sac together with the nerves is dissected loose carefully and dropped back in the spinal groove. If this cannot be done as much of the sac as does not contain the spread

out fibers of the cord should be cut away and the same closed by a double row of Lembert sutures of chromic catgut and pushed back into the sulcus. This can usually be done for in myleomeningoceles there are usually two to four vertebrae deficient.

If it is a true myelocystocele we evacuate the sac by opening on the back and replace the dilated cord back into its proper groove. This is not difficult owing to the

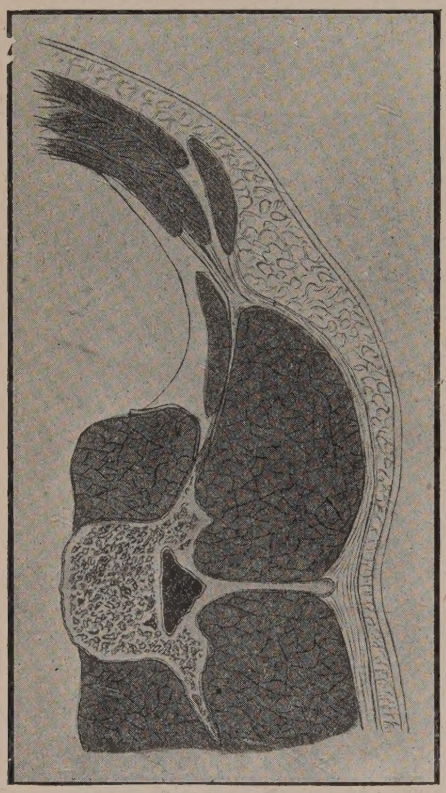

Fig. 7.

large space usually present due to the absence of two to four laminae of vertebrae.

The most important point is the closing of the wound. The success of the operation, barring infection, depends on the prevention of leakage and refilling of the sac in the last two varieties.

The first step in closing is to provide a cushion for the posterior part of the sac or stump. This cushion must be of soft tissue. This would not be difficult if we were dealing with normal anatomical conditions. But that is not the case, for as has been said, the muscles and fascia are nearly always deficient when the laminae of the vertebrae are absent. With the long incision described we will be enabled to get down beneath the erector spinae to the quadratus lumbori and get up enough of the muscles to bring together for a cushion over which we may bring up the edges of the middle layers of the lumbar fascia and suturing same over after lapping. The fascia has the strength to hold the softer tissue in place and prevent the herniation of the sac. We next bring the erector spinae together and overlap and suture with 20 day chromic catgut. The lumbar fascia, the posterior layer, is then brought together and sutured same as the muscle. The skin is then closed. The redundant flaps on the side oposite from the line of the initial incision are trimed to fit the semi-eliptical incision and closure is made with silk-worm gut. As a final step silk-worm gut sutures, about four, are placed deep so as to include a large part of the muscle and fascia and tied over a roll

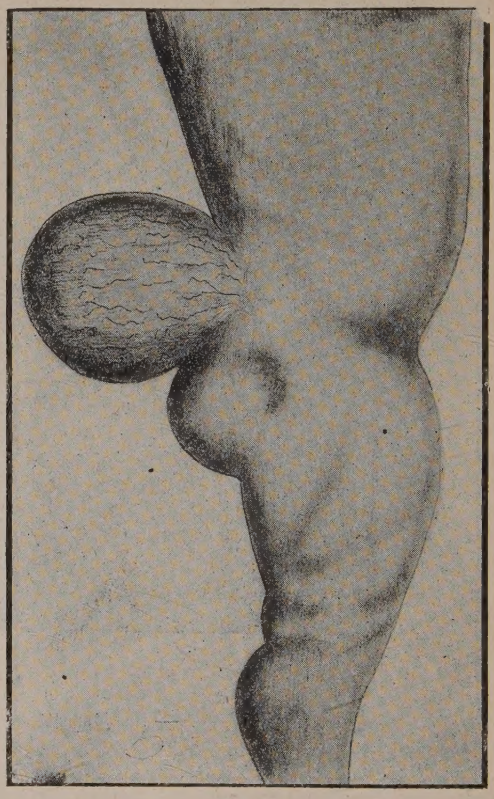

Fig. 5.

of gauze which is placed in the median line and covering the line of skin incision.

The wound is dressed with gauze and adhesive strips. The patient is kept in an inclined position with hips on a rubber bag or air cushion. The deep silk worm gut sutures are removed at the end of four days.

I wish to report three cases which came under my observation. Two brothers,

children of a father with indefinite specific history and of mother with tubercular diathesis:

Case I.—Congenital tumor; myelomeningocele. Not treated surgically. At five years of age necrosis of the bones of the toes began and gradually progressed until all the bones had sloughed off at the ankle joint. The boy died some three weeks since at the age of 21 years.

Case II.—Boy; spina bifida occulta. Faulty development from the second year. Paralysis of the feet begun at third year and continued with no improvement. About the age of puberty paralysis of the lower limbs began and extended to all the body. No treatment was given. The patient died at the age of 16.

Case III.—Patient, boy; son of Mr. and Mrs. Art. Howell; age at time of operation four months; present age two years. Tumor congenital size of large orange. Diagnosis spina bifida, variety myelomeningocele. Preparation of patient same as out lined in this paper. Anesthetic chloroform. Place of operation private home.

Operation.—Incision semi-elliptical; flap of redundant skin removed. Sac opened on top in median line. Hips elevated and fluid emptied out. The spread out cord separated from the sac and pushed back into the spinal groove. The sac was amputated and double inversion done reinforced with third row of cat-gut. Sulcus filled with soft tissue brought up from each side. The muscle next brought together and lapped and sutured with chromic catgut. The fascia then loosened up and brought over and lapped and sutured with chromic catgut. Skin closed. The four silk-worm gut sutures placed deeply so as to include large bites of the muscle and the fascia, and these tied over roll of gauze. Dressed with gauze and adhesive strips.

After-treatment.—Six hours later the patient had fever 104. Ice bag placed to back of head and body kept with head down at an angle of about thirty degrees. Twelve hours later temperature normal, but wound leaking. The silk-worm sutures were drawn tighter which stopped the leakage. The patient made an uneventful recovery. The little fellow is well and robust now.

The incision here used has the advantage of allowing skin closure not in median line and gives plenty of room for lateral search for tissue to fill the sulcus for a cushion and for the deficient muscle and fascia for closing. The second skin cut should be made so as to allow plenty of the best covering of the sac for final closing.

THE MEDICAL FORTNIGHTLY

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EDITORIAL

And Again a Year's End.

Father time has again brought us to a new holiday season and to another year's end. With the multiplication of years we are impressed by their increasing brevity; the seasons crowd one another and the years stay with us hardly long enough for us to become fully acquainted with them; our pen hardly gets the trick of writing 1910 promptly when it is time to write 1911. The years are short, and grow shorter as we live. How much each year shall have meant in the sum total of existence can only be estimated by the sincerity of man's effort and his loyalty to high standards in his daily life. Whether the year just ending has been worth while for each one of us is not for us to question, we know that the world has progressed tremendously during its days, and it is pleasant to believe that each man contributes a definite little part in this progress. Certainly it has been a year rich in medical progress and one which will occupy an important place in medical history. It is our good fortune to be living in a time of medical tolerance and advancement, to be seeing order and true science develop, to be in the body when we are making and seem about to make new discoveries which must make the practice of medicine a matter of such definite certainties as have never been known in the past. Old 1910 has certainly done great things for medicine and it passes on to 1911 a rich heritage of hope and promise.

In closing another year's work the editor of the Fortnightly feels a deep appreciation of the privilege of the fellowship in work which has been his; in a high degree the success of the journal has been due to the earnest co-operation of those who have contributed in its make-up, and not a little to the inspiration of an appreciative audience. Not all the things which we had hoped to accomplish are done, and not a few things of which we had no thought a twelve

months ago are now accomplished facts; there has been just that intermingling of success and disappointment which speaks for progress and proves an incentive to further effort. 1911 must be a better year than 1910, or any other year which has preceded it. And this is the season of kindly wishes duly expressed. One may be very busy with good wishes for his fellows, but if he never expresses them they seldom do anyone much good and they are liable to be choked utterly out of existence. Such expression should be encouraged, nct alone at the Christmas season but throughout the year and years, it is good for him that gives and for him that receives.

For this holiday season we wish good cheer for all our readers. For the New Year (not the day but the year) health and prosperity in such abundance as to be just short of a surfeit.

Our Municipal Hospitals.

No one matter of civic accomplishment stands out more clearly for the year just ending than does the reorganization of our municipal hospitals. The taking of these institutions away from the Health Department and establishing them under the control of a board, as a distinct department, is working out splendidly. St. Louis is beginning to discover that she very much likes the change. But this change has not been effected without considerable unnecessary pulling and hauling, and we are as yet some way away from the ideal of smoothness in effective working. This is not a condition to be wondered at, nor is it one for which blame can be definitely placed unless it be to slight defects in the system, or, more probably, in the method adopted for carrying the system out. The Hospital Board is the rightful supreme authority in all matters concerning the conduct of these institutions, but the board is composed of men who are busied with their own vocations, and they are finding that their work for the hospitals, as they have laid it out, is taking an amount of time and energy which amounts to genuine sacrifice for the civic good. What they do not seem to have discovered is that they are trying to do too much themselves; they have failed to delegate authority elsewhere when it might be done to the general advantage. A lesson might be learned from the recent reorganization of the Police Department, which has been for several years under much the same system of board control as that instituted for the hospitals; this reorganiaztion retains for the board its position as the supreme authority over the department, but the board takes for itself an advisory position leaving the detail of conduct of the department to the Chief of Police to whom every other member of the department is defined as a subordinate. This relieves the board of the great part of its duties, but leaves it free to reassume any or all of them at any time should the good of the department seem to indicate that such a move has become desirable; it also defines authority in the department and fixes responsibility for its highest development in one man, the chief of police. Should the Hospital Board adopt a similar plan, delegating much of the authority and responsibility which it is now exercising to the Hospital Commissioner, we are convinced that order and effective working would be much more speedily accomplished than is being done under the present plan. And why shouldn't such a change be welcomed by all concerned? Why shouldn't the Hospital Board profit by the experience of the Police Board? It would seem to us a natural consequences for to be able to profit by another's experience is vastly less expensive than in going blindly ahead and making experience for one's self.

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in Memory of Dr. Baumgarten.—The Alumni Association of the Medical Department of Washington University has appointed a committe to raise funds for the erection of a memorial tablet of the late Dr. Gustav Baumgarten, to be placed in the Medical Library Building beside those in memory of Drs. Gregory and Boisliniere.

The St. Louis Medical Society Election.—The election of the St. Louis Medical Society recently held resulted in the election of the following officers for 1911: President, Robert E. Schlueter; secretary, F. C. E. Kuhlmann; councillors, Henry Schwarz, Jos. Grindon, Carroll Smith and Jno. McH. Dean. The vice presidents are the chairmen of the sections.

New Contagious Disease Hospital.—The hospital board, on November 16, appointed a committee to investigate and report plans for the new contagious disease hospital to be located on ground owned by the city between the Municipal Sanatorium and the City Infirmary. Authority has been given to equip the Female Hospital buildings as a temporary contagious disease hospital.

THE REVIEWER'S TABLE

Books, Reprints, and Instruments for this department, should be sent to the Managing Editor, Century Building, St. Louis.

Never-Told Tales. By Wm. J. Robinson, M. D., Editor of the American Journal of Urology, the Medical Review of Reviews, the Critic and Guide and Therapeutic Medicine. Third edition; 155 pages. 12 Mt. Morris Park, New York: The Altrurians, Publishers. (Price $1.00.)

Some time since we republished in the Fortnightly from the Critic and Guide the "Story of Rose and Edward," and in doing so we had but one purpose and that was to bring the moral of that story to some who might not have seen it in its original publication. The story is but one of those which have been collected and published in this volume, each of which has quite as real and vital a lesson. We could wish for the profession in America that every man might thoughtfully read this little book and then pass it on to his lay friends, and pass its teaching on to his paitents. Much of the misery of the world is attributable to the ignorance of the profession as to the real normal of things sexual, but greater misery is due to their lack of insistence in regard to what they do know realative to the sexual diseases. The public is beginning to educate itself and to demand intelligent advice for boy, man, girl and woman from any and every physician. The day is past when medical men can feel that they have done their full duty in leaving men to spell out for themselves the lessons which may mean happiness or misery. The little volume deals with the results of indifference to or ignorance of sexual diseases. It is so happily worded that it can give no offense to the reader. The stories are vitally full of interest and instruction and its dissemination can do nothing but serve for the betterment of mankind.

The Practitioners' Visiting List for 1911. An invaluable pocket-sized book containing memoranda and data important for every physician, aud ruled blanks for recording every detail of practice. The Weekly, Monthly and 30-Patient Perpetual contain 32 pages of data and 160 pages of classified blanks. The 60-Patient Perpetual consists of 256 pages of blanks alone. Each in one wallet-shaped book, bound in flexible leather, with flap and pocket, pencil with rubber, and calendar for two years. Descriptive circular showing the several styles sent on request. Philadelphia and New York: Lea & Febiger, Publishers. (Price by mail, postpaid, to any address, $1.25. Thumb-letter index, 25 cents extra.)

Being in its twenty-seventh year of issue, The Practitioners' Visiting List embodies the results of long experience and study devoted to its development and perfection. It is issued in four styles to meet the requirements of every practitioner: "Weekly," dated for 30 patients; "monthly," undated for 120 patients per month; "perpetual," undated, for 30 patients weekly per year, and "60 patients," undated, for 60 patients weekly per year.

The text portion of The Practitioners' Visiting List for 1911 has been thoroughly revised and brought up to date. It contains among other valuable information a scheme of dentition; tables of weights and measures and comparative scales; instructions for examining the urine; diagnostic table of eruptive fevers; incompatibles, poisons and antidotes; directions for effecting artificial respiration; extensive table of doses; an alphabetical table of diseases and their remedies, and directions for ligation of arteries. The record portion contains ruled blanks of various kinds, adapted for n oting all details of practice and professional business.

Printed on fine, tough paper suitable for either pen or pencil, and bound with the utmost strength in handsome grained leather. The Practitioners' Visiting List is sold at the lowest price compatible with perfection in every detail.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., assisted by Leighton F. Appleman, M. D. In four octavo volumes, containing 1200 pages, amply illustrated. Vol. XII, No. 2, June 1st, 1910; Vol. XII, No. 3, September, 1st, 1910; Vol. XII, No. 4, December 1st, 1910. Philadelphia and New York: Lea & Febiger. (Annual subscription price, in heavy paper covers, $6.00, net; in cloth binding, $9.00, net. Carriage paid to any address.)

It is difficult to review a series of volumes of the character of these, which constitute the completion of a year of Progressive Medicine, and not find one's self guilty of constant repetition. Progressive Medicine is, each year, medicine brought up to date, it presents the really "worth while" of medical literature to those who may not not have access to all the medical journals published and to those who are too busy to do so much reading as would be necessitated by an endeavor to get to so much that is really the meat of progress. It should be an adjunct to every physician's journal list. The matter presented is collected by scientific and journalistic experts whose ability and good judgment is evidenced in every department of the work; not only do they collect and condense, but their critical and explanatory remarks introduced add greatly to the value of the text and are a feature of importance to its utility. Progressive Medicine during each year covers completely each of the recognized special-

ties in medicine and keeps its readers abreast with the latest which is doing and has gained recognition as established fact. The volumes for the year just ending are of an importance quite in keeping with the great advances which medicine has made during recent months, they are precursor of the year wihch is before us, and which is full of scientific promise.

The Physicians' Visiting List for 1911 (Lindsay & Blakiston's). Sixtieth year of publication. Revised and redated. Sizes for 25, 50, 75 and 100 patients per week. Philadelphia: P. Blakiston's Son & Co., Publishers.

The making of visiting lists seemed to have reached so near perfection as regards arrangement and condensation as to leave very little to be desired or expected; certainly we discover very little change from year to year except in the matter of redating and reviewing the emergency information which is made a feature of these books. This list has come to appear an old and tried friend, each new edition is very like its predecessor and each is tremendously serviceable as has been its predecessor. It is continuously reliable and satisfactory.

Unvaccinated Students Excluded from Classes.—By order of President Northrup of the University of Minnesota, about 350 students who had failed to comply with the law that all students should be vaccinated within three days after exposure to smallpox or be excluded from recitations for three weeks, have been excluded from classes.

A Mosquito Proof Steamer for the African trade has been built for service by an English firm. It is only a few years since people smiled when it was suggested that mosquitoes were the cause of malaria, yellow fever and some other diseases. Now the fact is established, that human ingenuity is at work devising means to protect people against mosquitoes.

The Barnard Free Skin and Cancer Hospital.—The new building of the St. Louis Free Skin and Cancer Hospital, which was erected by Mr. Geo. D. Barnard and has been given his name, is completed and is now occupied by the hospital. In matter of convenience, completeness and elegance it is a masterpiece of architecture. The institution is one of the most useful charities in this city. The profession of the city has been invited to an "open house" which is to be held by the directors on the afternoon and evening of December 21st. It will doubtless be very generally accepted.

SOCIETY PROCEEDINGS

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirty-sixth Annual Meeting, held at Detroit, September 13-15, 1910.

(Continued from page 486.)

Diagnosis of Trifacial Neuralgia.—Dr. H. T. Patrick, Chicago: In the majority of cases the diagnosis of tic douloureux should be easy and certain, as the traits of the disease are few and striking. But a number of other disorders have been referred to me as trifacial neuralgia; the most frequent have been migraine and sinus disease. Others were syphilis, brain tumor, alveolar abscess, and other dental disease, nasal disease, herpes zoster, neurasthenia and lesion of the optic thalamus. The pain of trifacial neuralgia is practically unique. There is nothing else just like it. It is short and sharp, in the beginning only a flash or jab or shot. The interval may be anywhere from a second or two to weeks or months. In the fully developed disorder the paroxysms may last a minute or two and the free intervals be so short that the pain seems continuous. It never really is so. Nearly every patient has intermissions of weeks, months, or even years, during which he is entirely free from pain. One of the most striking peculiarities of the affection is that the paroxysms or jabs of pain are started by slight peripheral irritation, such as washing the face, using a handkerchief, stroking the moustache or the touch of a glass to the lips. I think that the automatic act of winking often acts as an excitant. Such slight sensory stimulus in the area of one division of the nerve may occasion pain in another division. For instance, touching the lower lip may start a pain not in this region, but in the supraorbital area.

Water, the Main Factor in the Prevention of Disease.—Dr. J. C. Minor, Hot Springs, Ark.: Nutrition and elimination are the main factors in maintaining heatlh; but of the two elimination is absolutely necessary and must be continuous and invariably performed equally by the sewers of the body. There is little or no vicarious action in the emunction of health and disease. One cannot flush sewers without water and if regular flushing is to be done the water must be furnished the body regularly, and the purer the better. Normal resisting power prevents invasion of any and all diseases; it depends on normal distribution of food, normal lubrication of all body

structures and normal excretion of all waste products. Unless food be distributed to the system properly it will become detriment instead of a help. It cannot be distributed properly without the proper amount of water taken in at the proper time. The stomach is the kitchen in which pabulum is prepared for the system. The small intestine is the table from which the system is served. The system will be served with only just enough, the remainder is thrown through the cecal valve into the sewer. If food is badly digested the system rejects it. If food be more than the system requires the surplus is also rejected. All rejected food is an irritant. May it not be a cause for appendicitis? There is a proper time for taking the proper amount of water. One's judgment should govern the measure of water to be taken with food. To take too much water just before, during or just after a meal, would, so to speak, be to put out the fire in the kitchen, while not enough fluid would compel the stomach to borrow too heavily from the systemic volume. The one would retard digestion and the other would give imperfect digestion.

Gradual Evolution of a Sane Therapy in Tuberculosis.—Dr. F. M. Pottenger, Monrovia, Cal.: The position of the sanatorium in the rational treatment of tuberculosis is important. If the sanatorium is conducted on the proper lines it affords the best circumstances under which the known measures, which have influence in building up and curing the patient, may be applied. The home treatment, however, is one of the greatest boons to tuberculosis patients, because most patients are not able to be treated in sanatoria and must be treated in their homes. The true position of home treatment can be readily understood by the fact that it is an attempt to apply sanatorium discipline and sanatorium conditions to the home.

Intestinal Surgery with a Demonstration of a New Method of Suturing the Bowel.—Dr. A. E. Benjamin, Minneapolis: The various instruments and appliances formerly used to facilitate the surgeon in his work on the intestines have almost all been discarded for the simple but efficient method of intestinal anastomosis by thread and needle. The work should be carefully but rapidly performed. A positive blood supply to the tissues making up the anastomosis is necessary. The end-to-end method is not so certain; therefore, the side-to-side anastomosis should be chosen when convenient. The evolution of the intestinal suture has brought us to the point where we are certain of good results, when the sutures are properly applied and are of the right material. Non absorbable suture material should be cast off into the lumen of the intestine after serving its period of usefulness, and this is best accomplished when used for the inner layer; there is then less destruction of tissue. When placed externally it promotes unnecessary adhesions, plastic exudate and fibrous bands. It may interfere with proper bowel function, because of its prolonged irritation. Absorbable suture material used for the outer layer is soon taken care of and does not cripple the action of the intestine. The application of the suture in intestinal work has been carefully studied. It must serve the purposes of controlling hemorrhage, proper coaptation of the tissues, security against leakage, must avoid pursing, be quickly introduced and not strangulate the tissue. The back-lock stitch of Pagenstecher's thread as applied by the author for the inner-layer serves all these purposes. Experimental work has demonstrated that chromic catgut lasts sufficiently long when employed as the outer suture for positive and firm union to occur. The after-treatment of cases of suturing the bowel should be carefully supervised by limiting the diet, starvation treatment, if necessary, until the union is sufficiently strong before it becomes necessary for the bowels to be called on to pass their contents onward. A perfect, clean and satisfactory result is obtained with the inner pagentsecher lockstitch, and a chromic catgut stitch for the outer in intestinal anastomosis.

MEDICAL ASSOCIATION OF THE SOUTHWEST.

Fifth Annual Meeting, held at Wichita, Kan., October 11-12, 1910.

(Continued from page 470.)

Postoperative Thrombosis.—Dr. St. Cloud Cooper, Fort Smith, Ark., read a paper in which he reported a case of postoperative thrombosis complicated with neuritis.

DISCUSSION.

Dr. J. D. Griffith, Kansas City, Mo.: I have encountered postoperative thrombosis of the lower extremities in six cases. Two such cases I have had within the last two or three weeks, and in five of these cases the thrombosis has occurred on the left side, and one on the right side.

Dr. Edward H. Ochsner, Chicago: So far

as I know, no one has been able to throw any light on the cause or causes of postoperative thrombosis, or why it occurs more frequently on the left than on the right side. Thrombosis occurs after simple cases of appendectomy, and it takes place in a larger percentage of cases on the left side than on the right after operations for appendicitis.

Dr. J. E. Gilchrist, Greenville, Tex.: We know very little about the cause or causes of postoperative thrombosis. It not only occurs following simple surgical operations, but sometimes follows fevers and other conditions. I have seen severe thrombosis following typhoid; the patient's limb would be greatly swollen and blistered, the condition being attended with great pain and all the symptoms of surgical thrombosis. The treatment outlined by Dr. Cooper is rational, and in the cases I have had I have employed the same method of treatment.

Dr. Charles H. Cargile, Bentonville, Ark.: I recall a case of thrombosis following exploration of the region of the kidney for obstinate pain. The pain was relieved by operation. In this case the thrombosis occurred on the left side.

Dr. Howard Hill, Kansas City, Mo.: Several years ago, Franklin P. Mall of Johns Hopkins Hospital conducted an investigation on cadavers, in which, in a number of cases, he found a constriction ring in the common iliac vein before it joins with its fellow of the opposite side. This constriction ring leads to slowing of the current in the vein in the region below. If these observations could be confirmed by some other anatomist, it would be a clue to the reason why thrombosis occurs on the left side. I do not know the reason.

Dr. St. C. Cooper, Fort Smith, Ark.: I do not think the blisters I spoke of were caused by poor circulation; they were probably due to some trophic disturbance such as we have in Raynaud's disease.

President's Address: Fatigue.—Dr. G. H. Moody, San Antonio, Tex.: Fatigue is relative in degree of and follows prolonged and excessive activity. The degree of fatigue which may follow a given amount of activity or strain will depend on the nervous integrity and the healthfulness of the individual. Also, the amount of fatigue which an individual may be able to overcome promptly by rest and sleep is likewise dependent on the recuperative capacity of the individual, and on his opportunity and inclination for adequate rest and recuperation. The more normal and robust the individual, the more easily, naturally and irresistibly will sleep and rest follow and continue until the fatigue is fully overcome. On the other hand, the more delicate or neuropathic the individual, either from bad heredity, disease, prolonged strain, or other cause, the less will be the capacity for rest and pleasurable repose, and the fatigue of each day's activities may not be fully restored from day to day, and there will result, finally, a chronic irritability and restlessness which renders impossible adequate recuperation voluntarily. This tends to produce a condition simulating brilliancy, in which greater efforts are encouraged in the young, until there ensues an acute breakdown or chronic exhaustion. The forms in which these results of prolonged fatigue and exhaustion generally appear are indigestion, malnutrition, the various fatigue neuroses, known as the occupation neuroses, insomnia, neurasthenia, psychasthenia, hysteria, the acute insanities, in which the strain of the climacteric plays a part, and dementia and paranoia, which are generally misfortunes of the developmental period of life There also occur drug and alcohol addictions, the majority of which are developed as the result of a conscientious effort to bear the burdens of life by means of stimulating, anesthetizing, or narcotizing overfatigued feelings, in order to make life bearable for awhile, with the hope that a change in conditions may perchance finally come.

Locomotor ataxia and paresis may occur when continued strain and fatigue play an important part together, generally with a syphilitic diathesis and a neuropathic constitution. In fact, while the best authorities maintain that there is a specific constitutional basis in these cases, they seem never to develop without the long-continued fatigue and the neuropathic constitution in which adequate rest is difficult through life. Formerly, patients with tabes or paresis degenerated rapidly, and dementia and death came early. In the light of recent investigations, it is found that the decline could be brought to a stand-still in most of these cases, and that the tabetics, especially, should be able to have a comfortable and fairly useful life, not shortened materially by reason of the disease, and that the paretics should become able to live at home comfortably for many years, the degree of comfort depending on the time and the course of the disease when the diagnosis is made and proper treatment instituted. It is hoped that in these para-

syphilitic conditions the "606" of Ehrlich will prove of great value. Much is being done by proper administration of mercury and arsenic preparations, preferably hypodermically in both instances, the arsenical preparation found efficacious being sodium cacodylate. These patients should not be given the iodids. They degenerate the patient rapidly and do no good. From whatever standpoint these cases are considered, the important elements of fatigue must be kept always in mind.

In such purely physical disorders as gastro-enteroptosis, and other conditions of similar origin, we more readily take into account the general condition of fatigue and the diminished general muscular tonicity of the patient, and reckon with it in whatever other medical or surgical procedure thought to be indicated.

It is to be hoped that in time there will be a universal attempt on the part of the public to make a scientific estimate of the individual capacities and limitations of each child. With this estimate correctly made or even approximately so, individual will pass through the educational and developmental stages of life into maturity without so much uncertainty concerning their future.

Oration on Surgery: The Prevention and Treatment of Septic Infections of the Extremities.—Dr. Edward H. Ochsner, Chicago: The severer wounds that naturally come to the physician from the very first we must divide into two classes: the more superficial wounds, that are likely to be infected with ordinary pyogenic micro-organisms only, and those which are likely to be infected with the tetanus bacillus in addition. In the latter the same method of disinfection is used as in the former, but in addition I always give a prophylactic dose of antitetanus serum, and, if the wound is deep or likely to contain foreign material, I lay it wide open, remove the foreign material and leave the wound gaping and to heal by granulation subsequently. All fresh wounds are treated in the following manner when they first come in: If the laceration is extensive, the patient is given a general anesthetic; if less severe, the extremity is immersed in a 2 per cent phenol solution in tepid water for from 5 to 10 minutes. This is an excellent local anesthetic and makes it possible to scrub the parts without causing undue pain. The extremity is cleansed thoroughly with soap and sterile water by the aid of a brush or pieces of sterile gauze; then washed off with ether, scrubbed well with turpentine, swabbed with tincture of iodin, rinsed with alcohol, and finally sterile dressing is put on. If in spite of these precautions, or because of their neglect, septic infection does develop, by instituting and rigidly adhering to a definite rational plan of treatment we can secure healing with practically no mortality, rarely, if ever, lose a member, and usually without permanent impairment of function. A patient with septic infection, with pyrexia, be it ever so slight, should be kept in bed with the extremity elevated in a comfortable relaxed position. This last point is of considerable importance. If the muscles are not relaxed they make pressure on the lymphatics and veins and hinder return circulation, and the tenseness of the muscles tires the patient unnecessarily and reduces his resistance. The two factors which lower resistance almost more than any other two are pain and fatigue, and by observing the rules here laid down these can be reduced to the minimum. By the proper combination and judicious application of phenol, boric acid, alcohol, and tincture of iodin, one can practically always destroy the bacteria or decrease their virulence. Ninety-five per cent phenol is a powerful gerimcide, and can be safely applied with a cotton swab over the reddened, inflamed area, until it turns white; the phenol is then quickly washed off with strong alcohol. Inflamed skin will tolerate an amount of 95 per cent phenol that would destroy normal healthy skin. After this preliminary application, the extremity is encased in a large hygroscopic elastic wet dressing. For wet dressing I use a saturated solution of boric acid in water, to which from one-sixth to one-half of 95 per cent alcohol is added. Saturated solution of boric acid is, in my opinion, the best non-toxic antiseptic we have, and alcohol is a powerful dehydrant, and in addition keeps the part warm and comfortable, preventing that cold, clammy feeling which a wet dressing is so apt to cause. In the majority of cases, the veins and lymphatics can be drained by simply elevating the affected extremity, and this can be done so effectually that incision rarely becomes necessary. This drainage by elevation is assisted by dehydrating power of the alcohol.

In conclusion, permit me briefly to recapitulate: Insist on absolute rest and proper elevation of the affected extremity, with the patient recumbent in bed if there is the slightest pyrexia. Do not incise until there is unmistakable evidence of pus, and do not remove the lymph glands unless they are necrotic and suppurating. If in-

cision becomes necessary, it should be within the line of demarcation and, if possible, distal to it and to an Esmarch constrictor. The incision should be swabbed with tincture of iodin, the constrictor being released so as to close the cut veins and lymphatics. The inflamed part should be manipulated, kneaded and squeezed as little as possible. General hygiene and elimination must be attended to. If very red and inflamed, the skin may be painted with 95 per cent phenol until it turns white, when it is washed off with strong alcohol, and a copious wet dressing applied, consisting of from one to five parts of saturated solution of boric acid and one part of 96 per cent alcohol.

If these directions are carefully followed, healing can be secured in a relatively short time, with almost no morbidity and practically no mortality.

[To be continued.]

Madame Curie, by insolating radium from one of the combinations in which hitherto it has been known alone to exist, increases her already long list of triumphs, and moreover confounds the eminent scientist who very recently doubted whether there really was any such thing as radium, inclining to the opinion that the salts supposed to contain it were in fact very familiar substances, only united in some out-of-the-ordinary way. But now Mme. Curie produces definitely a white metal, that adheres strongly to iron, turns black on exposure and oxidizes in water. This is radium.

The Health of the U. S. Navy.—The health of the U. S. Navy was better during the year 1909 than in any other yearly period of the last decade, and the death rate was the lowest ever recorded, according to the annual report of Surgeon-General Stokes to the Secretary of the Navy. The record death rate was five in a thousand. The percentage of sick from disease and injuries during 1909 was 4.619, as compared with a ten year average of 5.218. From disease only in 1909 the percentage of sick was 3.952, which is lower than any year since Spanish-American war.

Laryngeal Signs of Tuberculosis.— C. L. Minor, Asheville, N. C. (Journal A. M. A., Nov. 19), says that no examination of the tuberculous patient can be said to be satisfactory or thorough without inspection of the larynx, and it would be better if the physician were always able to do this for himself. A review of the literature shows that the laryngeal conditions usually recognized are not those early and curable changes which can be seen with the laryngoscope, but the later formidable symptoms generally considered tantamount to a death sentence to the patient. The symptoms of early laryngeal tuberculosis are limited in number and not so valuable as the signs. The earliest is usually a mere weakening of the voice, which may appear long before hoarseness is noted. Next to this he would note a sense of dryness in the throat followed by a localized tickling of pricking. Pain on swallowing is not usually an early symptom in his experience. The subjective symptoms, however, are relatively unimportant as compared with the objective signs. He has not found pallor of the mucous membrane often as an early sign, and he believes that catarrh with hyperemia is usually the first sign, though it is not diagnostic. It is only when it becomes unilateral and persistent that it becomes really suspicious. An obstinate patchy catarrh confined to one cord is highly suspicious, and in a patient whose lungs are tuberculous may be safely counted as tuberculous itself. Next to this he would note as significant a greyish wrinkling of the posterior commissure, which he thinks is the commonest early finding, but it is not diagnostic. The earliest real diagnostic symptom is, in his experience, a table-like elevation of the mucous membrane in the posterior commissure, and this he believes is pathognomonic. These tend to break down into ulcers and, with their abundant granulations, they may pass for tuberculomata. Next as a site of early changes is the vocal process, the posterior insertion of one cord or the body of the cord itself, where ulcers tend to appear which may be scattered along the edge. He finds some involvement of the arytenoid region very early in the disease, localized congestion and thickenings. Thickening of the aryepiglottic folds is a more advanced change, but when present is pathognomonic. Another early change, though a rare one, is the protrusion of a small point of red granulation beneath the anterior commissure, and when seen its diagnostic value is great. In the therapeutics of this stage Minor insists first on absolute rest of the voice, not allowing even whispering; next, the avoidance of irritants, especially smoking, and third, cleanliness; fourth, the use of astringents. He warns untrained physicians against resorting to endolaryngeal applications with the cotton-tipped laryngeal sound in the treatment of ulcerations. They should be use only by the expert.

THE MEDICAL FORTNIGHTLY

A Cosmopolitan Biweekly for the General Practitioner.

The Medical Fortnightly is devoted to the progress of the Practice and Science of Medicine and Surgery. Its aim is to present topics of interest and importance to physicians, and to this end, in addition to a well-selected corps of Department Editors, it has secured correspondents in the leading medical centers of Europe and America. Contributions of a scentific nature, and original in character, solicited. News of Societies, and of interesting medical topics, cordially invited.

Advertising forms close on the first and fifteenth of each month. Time should be allowed to submit proof for correction. Advertising rates on application.

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Contributors should understand that corrected typewritten copy is essential to clean proof and prompt publication, and is much more satisfactory than manuscript. Original articles should be as condensed as justice to the subject will allow.

Editorial offices in St. Louis and St. Joseph, where specimen copies may be obtained, and subscriptions will be received.

Contributions and books for review should be addressed to the Managing Editor, 319 and 320 Century Building, St. Louis, Mo.

MEDICAL MISCELLANY

Increase of Diphtheria and Typhoid Fever.—On account of the amount of diphtheria and typhoid fever in Chicago and the steady increase of the number of cases, the department of health has asked and received a special appropriation of $10,000 to be used in fighting the threatened epidemics of these two diseases.

Record Price for Radium.—The English Radium Institute, of London, has acquired from the mine of the Austrian Ministry of Public Works fifteen grains of radium for medical purposes, for which the sum of $75,000 was paid, equivalent to $5,000 a grain. The purchase money was provided by Sir Ernest Cassel. Only half the amount is to be delivered at once, and the remainder will be turned over as accumulated in three months' time.

Location for City Sanatorium Fixed.—The city of Chicago is said to have agreed on an eighty five acre tract of land bounded by Foster, California, Olive, Western, Bryn Mawr Avenues and Rockwell street, as the location for the new municipal tuberculosis sanatorium. The land is relatively high, being from 18 to 40 feet above the city datum, and is owned by Mrs. Julia F. Porter, who offers it to the city for $100,000.

French Measures Against Alcoholism.—Taking the stand that the greater number of crimes committed are the direct result of alcoholism and that the latter constitutes a veritable social scourge which must be checked most energetically, the jury of the Seine in November passed the following resolution: (1) that every individual found drunk on the public thoroughfare ought to be immediately arrested and brought before the courts; (2) that for ten years, all granting of license ought to be absolutely prohibited.

Ehrlich's "606" and the Italian Dermatologists.—At the annual meeting of the Associazione dei Dermatoloig Italiani resolutions were adopted in regard to Ehrlich's new remedy for syphilis, calling attention to the harm that may result from the way in which it has been advertised and warning the public against interested exaggeration of its therapeutic efficacy. Physicians are urged not to charge exorbitantly for injections of the new drug when it is put on the market, as some are said to have done already.

Austrian Cancer Society.—After long preparation, the Austrian Cancer Society held its first meeting recently. Its purpose is twofold: The scientific campaign against malignant growth will be conducted in special cancer re-search institutions, and public instruction as to the nature and necessity of the early removal of cancer will be attempted on liberal lines. For the research the leading pathologists and surgeons of the Vienna University (Weichselbrum, Paltauf, Eiselsberg, Shauta) have become members of the committee which will manage the society. The other branch of the work will be carried on by the distribution of popularly worded leaflets dealing with cancer, the institution of lectures for the middle and lower classes both in towns and rural districts and last, not least, the admonition of practitioners to prevent undue loss of time and chance. The late Professor Chrobak caused to be distributed in his gynecologic clinic similar leaflets with a warning as to breast and uterine cancer.

Los Angeles and the A. M. A. —In an effort to make the meeting of the American Medical Association which will be held at Los Angeles beginning June 26, 1911, the largest in its history, circular letters setting forth the wonders and beauties of California and the advantages of Los Angeles, are being sent all the members by Dr. Walter Lindley, editor of the Southern California Practitioner and ex-president of the California State Medical Society.

Mrs. Mary Baker G. Eddy, discoverer and founder of the Christian Science Church, died on Saturday, December 3d, at the age of 89 years. Some of the dissenting Christian Scientists claim that she died many years ago and that the woman just "passed over" was an impostor, but that is probably an error, for the letters and poems recently given out are too like the previous writings of Mrs. Eddy to have been written by any one else.

After the Fort Worth, Ind., health department had held up an incoming interurban car, November 25, for an hour, until the car, its crew and twenty passengers could be fumigated, on account of suspected infection of diphtheria, it was discovered that the treatment had been applied to the wrong car and passengers. The error had been caused by the Muncie health authorities, who phoned that a woman with two children suffering from diphtheria had broken quarantine in that city and come to Fort Wayne on the car. Later it was discovered that the people had passed through Fort Wayne the evening previously.

Investigation of Infantile Paralysis.—The New York State Board of Health will ask the Legislature at its coming session to provide funds sufficient to permit of a thorough field investigation of infantile paralysis during the epidemic season next year. For the past two or three years the disease has occurred epidemically over an ever-widening territory, and it is estimated that the records of 1910 will show upwards of 3,C00 cases, of which 10 per cent terminated in more or less permanent paralysis. At present the New York State Health Department enforces the same sanitary precautions and quarantine regulation in regard to this disease as are observed in cases of diphtheria. It also requires that all cases be reported to it on special blanks, and a study will be made of these records; but a field investigation made house by house is also necessary in order to determine the factors which favor the spread of the disease.

For wiring bones iron wire is stronger than silver, and can be had at any hardware store.—Amer. Jour. of Surg.

Warning Against the India-Ink Method for the Spirocheta Pallida.—J. H. Barach, Pittsburg, after experimenting with various inks, says that since the accurate determination of the presence of spirocheta pallida is at present already often complicated by the presence of spirocheta refringens, to use the India inks would be to add one more source of error. The spirocheta-like objects seen with these inks seem capable of asssuming various shapes and sizes and while most of them, by the experienced microscopists, would not receive very serious consideration, some of the specimens that I have come across at a magnification of 1,300 diameters and higher, could delude even the expert. I know a number of men who have occasion to diagnose many cases of syphilis, and who have been using the India-ink method for some time. These men do not consider themselves expert microscopists, and they admitted that they may have made this error. In the past, diagnosis of this disease has been based largely on full development of the clinical symptoms, but at present, it is being frequently made on finding the spirochetes. For that reason, the greatest accuracy must be exercised, and the possibilities of error should be reduced to a minimum. In consideration of the above findings, I offer this experience as a warning against the India-ink method by the non-expert and the general practitioner to whom it has been so strongly recommended.—Jour. A. M. A., Nov. 26, 1910.

Rabies in New York State.—Statistics of the State Department of Health show that this state has for two or three years been suffering from an epidemic of rabies. Statistics compiled up to April 1, 1910, show that at that time the disease existed in sixteen counties, and the State Department had quarantined two villages, seven cities and fifty-one townships. During the years 1908, 1909 and 1910, to date, the records show that 105 persons have been bitten by rabid animals, 12 of whom died: 10 horses were bitten, of which 5 died; 68 cattle were bitten, of which 38 died; 11 swine bitten, 10 of which died. This does not include hundreds of dogs that have died of rabies or have been killed because of showing some symptoms of the disease. These figures are very large when the fact that the disease has been stamped out by proper methods of control in some other countries is considered.

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INDEX TO VOLS. XXXVII-XXXVIII, 1910

ORIGINAL ARTICLES

Acquired Syphilis Occurring in an Hereditary Syphilitic.—Scott 29
Advantages of the Urine Examination.—Harrower 119
Abortion.—Samuels 132
Alterations in Stools as Indications for Change of Food in Infants.—Zahorsky 310
Actions of the Ions Produced by Radium.—Robarts 181
Clinical Picture of Korsakoff's Disease Now and in 1886.—Burnett 225
Cretinism, Juvenile and Adult Myxedema; Exophthalmic and Simple Goitre.—Jones 305
Crux Medicorum.—Stephens 310
Death Rate Among Children—A Greater Part of the Diseases Are Preventable 439
Diffuse Infiltrating Carcinoma of the Stomach.—Bell 2
Early Diagnosis of Pulmonary Tuberculosis. Hull 39
Endothelioma of the Peritoneum.—Montgomery 133
Elections in the A. M. A. and Its Constituent Associations.—Lydston 155
Family-Physician Refracting as a Factor in Medical Practice, and Its Promotion in 1910.—Connor 395
Functional Neuroses, Clinically Reviewed.—Waugh 479
Fear of the Cold.—Holmes 1
Foreshadowing Democracy in the A. M. A.—Lydston 48
Gonorrheal Arthritis.—Shoemaker 140
Great Opportunity for Physicians and Trained Nurses on the Foreign Field 462
Gases in Their Relation to the Body.—Benedict 493
Hygiene of School Life.—Butler 345
Individual Treatment of Morphine Habitues.—Waugh 438
Is the Concept of Life Inclusive of Metabolism, or is Epigenesis in Force, and in the Inclusion?—Clements 416
Intestinal Obstruction from Appendiceal Adhesions.—Dudley 265
Indeterminate Stage, The.—Waugh 98
Influence of Progressive Medicine on the Law.—Chapman 290
Material and Methods, the Secret of Success in Local Anesthesia.—Hertzler 475
Nation's Duty in the Conservation of Human Life, and Its Effect upon the Cost of Life Insurance.—Montgomery 245
Neurasthenia—Nervous Prostration, Nervous Exhaustion—Stephens 254
Newer Cleanliness.—Benedict 417
Obliteration of Drug Craving.—Waugh 398
Owen Bill for the Establishment of a Federal Department of Health and Its Opponents.—Knopf 367
Objectionable and Unusual Chinese Drugs.—Schneider 351
Old Age.—Waugh 211
Physical Basis of Life; Query?—Clements 115
Pyuria in Latent Genito-Urinary Lesions.—Walsh 118
Progressive Muscular Dystrophy of the Juvenile Type.—Bradley 159
Plea for a Sane Fourth of July.—Scherck 252
Personal Experience in the Treatment of Venereal Diseases.—Seba 332
Procreation Laws.—Bogart 338
Pleural Effusions, Their Diagnosis and Treatment.—Montgomery 433
Postoperative Care and Treatment of Suprapubic Prostatectomy.—Basham 455
Pyloric Obstruction Due to Extrinsic Causes.—Beedle 457
Pellagra, with Report of Cases.—Allison 285
Physical and Psychical Effects of Hydrotherapy.—Butler 325
Plea for Conservative Surgery.—Eaton 460
Role of Physician, Philanthropist, Publicist, and Politician Regarding a Federal Department of Health.—Montgomery 411
Recurrent Insanity and the Stigmata of Degeneracy.—Hughes 435
Regional Anesthesia, with Report of Several Cases.—Allen 71
Rational Treatment of Typhoid Fever.—Servoss 113
Rupture of Membrana Tympani While Using a Telephone.—Koetter 99
Stenography for Physicians and Nurses.—Benedict 372
Syphilis as a Non-Venereal Disease.—Ohman-Dumesnil 389
Spina Bifida—Report of a Case—Crosthwait 496
Some Recent Advances in the Surgery of the Accessory Sinuses of the Nose.—Mann 27
Stricture of the Male Urethra.—Smith 45
Surgery of Prostatic Obstruction; with Presentation of Patients and Specimens.—Lewis 229
Some Problems of the Twentieth Century Physician.—Woodward 269
Surgical Eponyms.—Hagen 4-68
Treatment of Diseases of Skin Pigmentation.—Ashmead 151
Two Cases of Acute Mania with Unusual Duration of Mental Obliviousness.—Hughes 478
Touring the Lands Where Medical Science Evolved 89-171-199
Tendency of Modern Surgery.—Inge 66
Vaccination, Vivisection and Egotism.—Hughes 70
Work in the Laboratories of Europe.—Warner 21
Value of Surgical Celerity.—Blickensderfer 63

EDITORIAL

And Again a Year's End..... 501
And Now to Get Busy..... 31
Annual Meeting of the St. Louis Medical Society..... 7
Animal Experimentation and Our Knowledge of the Circulation..... 237
American Medical Editors' Association..... 257
A Needed Change in Our Society Election Scheme..... 463
Byron Robinson..... 142
Chinese Drugs..... 358
Contribution to the Study of Tremors..... 6
College Merger Again Under Consideration... 482
Carnegie Report on Medical Education..... 374
Dr. Hyde..... 76
Deaths by Violence During 1909..... 159
Dr. Knopf's St. Louis Visit..... 123
Declining Birth-Rate and the Physician's Duty..... 161
Dr. Morfit, Hospital Commissioner..... 213
Death of Robert Koch..... 226
Death of Dr. J. F. Menistrina..... 375
Death of Dr. G. Baumgarten..... 401
Death of a Man..... 463
Exceptional Child, The..... 160
Federal Control of the Practice of Medicine.. 441
Figures Which Must Lie..... 75
For a Safe and Sane Independence Day Celebration..... 236
Get-Together Meeting of the St. Louis Medical Society..... 52
Hospital Saturday and Sunday Again..... 581
Induced Hyperemia in Treatment..... 143
Is It Atavism?..... 271
Is There a Venereal Peril for Us?..... 122
Lay Press and Our City Hospitals, The..... 533
Local Anesthesia in Major Operative Work... 53
Local Medical-College Situation..... 132
Medical Society of City Hospital Alumni..... 31
Misleading Report..... 75
Meeting-places of the A. M. A..... 216
Medical Martyrs..... 296
Missed Opportunity..... 357
Month of Vacation..... 357
Mistaken Diagnoses..... 423
New Danger in Dying..... 52
New Children's Hospital..... 76
National Department of Health..... 272
New Licentiates in Medicine..... 296
New City Hospital Staff..... 442
Our Municipal Hospitals..... 602
Physician and the Pharmacist, The..... 334
Physiologic Therapeutics..... 400
Problem of the "Independent" Medical Society..... 422
Profession's Attitude Toward Innovations, The..... 464
Rehabilitation of the American Medical College..... 358
Relation of the Profession to Morphinism..... 54
Religio-Medical Masquerade, The..... 295
Remedial Measures Other than Drugs in Cardiac Diseases..... 103
Sanitary Conditions in the St. Louis Ghetto... 32
Sure (?) Cure for Eczema..... 101
St. Louis Medical Society's Smoker..... 186
State Meeting at Hannibal..... 159
Sixty-first Annual Meeting of the American Medical Association..... 255
Sodium Benzoate Again..... 311
Something Further of "606"..... 400
Segregation of Consumptives..... 359
"606" Again..... 422
"606" and Syphilis..... 375
That Arch Criminal, "The Drinking Cup"..... 75
The Treatment of Pulmonary Tuberculosis Based upon the Assumption that the Dietetic Cause of the Disease is Lime Starvation..... 6
The South's Fight for Race Purity..... 102
Touring Lands Where Medical Science Evolved..... 214
The Itinerant Vendor in Illinois and Missouri 482
Vaccination and Tetanus..... 440
What About the Serum Diagnosis of Syphilis? 122
Week of Great Events..... 215
What Constitutes Disease?..... 311

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